

* NOTICES *

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CLAIMS

[Claim(s)]

[Claim 1]A compression layer by which densification was carried out by carrying out load of the predetermined welding pressure selectively to the surface of amorphous materials is formed, Subsequently, a processing method of amorphous materials removing a surface layer of said amorphous materials using a processing agent from which removal ability differs in this compression layer and incompressible layers other than this compression layer, and processing said compression layer into a convex configuration.

[Claim 2]A processing method of the amorphous materials according to claim 1, wherein said processing agent is an etching reagent in which said compression layer differs in an etch rate from said incompressible layer.

[Claim 3]A processing method of the amorphous materials according to claim 2, wherein said etching reagent is an acidic solution containing acid.

[Claim 4]A processing method of the amorphous materials according to claim 3, wherein said acidic solution contains fluoric acid.

[Claim 5]A processing method of the amorphous materials according to claim 3 or 4 characterized by performing the 2nd etching process with an alkaline solution after said acidic solution performs the 1st etching process.

[Claim 6]A processing method of the amorphous materials according to claim 5, wherein said alkaline solution contains a chelating agent.

[Claim 7]A processing method of the amorphous materials according to claim 2, wherein said etching reagent is an alkaline solution containing a chelating agent.

[Claim 8]A processing method of the amorphous materials according to any one of claims 1 to 7, wherein said amorphous materials are inorganic glass.

[Claim 9]A processing method of the amorphous materials according to claim 8, wherein said inorganic glass contains a silicon oxide and an aluminum oxide at least.

[Claim 10]A processing method of the amorphous materials according to claim 8, wherein said inorganic glass contains at least a silicon oxide and at least one or more sorts of oxides chosen from an alkali earth metal oxide.

[Claim 11]A processing method of the amorphous materials according to any one of claims 1 to 10, wherein said compression layer presses and forms an indenter which has bigger hardness than hardness of said amorphous materials.

[Claim 12]A processing method of the amorphous materials according to claim 11 carrying out relative displacement of said surface top where said indenter is pressed on the surface of amorphous materials, and forming said compression layer.

[Claim 13]A processing method of the amorphous materials according to claim 11 or 12, wherein said indenter comprises a probe.

[Claim 14]A processing method of the amorphous materials according to claim 13, wherein said probe comprises a probe of scanning probe microscopy.

[Claim 15]A processing method of the amorphous materials according to any one of claims 1 to 10, wherein said compression layer makes particles which have bigger hardness than hardness of said amorphous materials collide with the surface of said amorphous materials and forms them.

[Claim 16]A processing method of the amorphous materials according to claim 15, wherein said particle is slurry form.

[Claim 17]A processing method of the amorphous materials according to any one of claims 1 to 16 performing a surface treatment to this compression layer, and removing said surface layer after that using said processing agent after forming said compression layer.

[Claim 18]A processing method of the amorphous materials according to claim 17 grinding said surface treatment with a loose grain which has hardness of said amorphous materials, and the hardness below equivalent.

[Claim 19]A processing method of the amorphous materials according to claim 18, wherein said loose grain is colloidal silica.

[Claim 20]A glass substrate which amorphous materials comprise multicomponent system inorganic glass, and is characterized by forming heights by a processing method of the amorphous materials according to any one of claims 1 to 19.

[Translation done.]